

**Letter Report: Authoritative Guidelines and
Processes Are Needed for Classifying
Information Technology Projects**

September 2001

Reference Number: 2001-20-152

This report has cleared the Treasury Inspector General for Tax Administration disclosure review process and information determined to be restricted from public release has been redacted from this document.



DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

INSPECTOR GENERAL
for TAX
ADMINISTRATION

September 10, 2001

MEMORANDUM FOR DEPUTY COMMISSIONER FOR MODERNIZATION &
CHIEF INFORMATION OFFICER

Scott E. Wilson

FROM: (for) Pamela J. Gardiner
Deputy Inspector General for Audit

SUBJECT: Final Letter Report - Authoritative Guidelines and Processes Are
Needed for Classifying Information Technology Projects

This report presents the results of our review of the Internal Revenue Service's (IRS) guidelines and processes for classifying information technology projects. Our objective was to determine if the IRS had developed authoritative guidelines for the classification of information technology projects, as intended by the Information Technology Investment Account (ITIA) legislation, and implemented processes to ensure that projects adhere to the guidelines.

In summary, we found that the IRS needs to establish authoritative guidelines and processes for classifying information technology projects as to the funding source and level of project management required. IRS management agreed to our recommendations and provided an adequate, detailed response to our draft report. Management's complete response to the draft report is included as Appendix VI.

Copies of this report are also being sent to the IRS managers who are affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Scott E. Wilson, Assistant Inspector General for Audit (Information Systems Programs), at (202) 622-8510.

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

Objective and Scope

The objective of this audit was to determine if the IRS had developed authoritative guidelines for the classification of IT projects and implemented processes to ensure that projects adhere to the guidelines.

The objective of this audit was to determine if the Internal Revenue Service (IRS) had developed authoritative guidelines for the classification of information technology (IT) projects, as intended by the Information Technology Investment Account (ITIA) legislation,¹ and implemented processes to ensure that projects adhere to the guidelines. To accomplish the objective we:

- Determined if the IRS had established guidelines for the classification of IT projects.
- Identified IT projects and evaluated the IRS' process for the classification of these projects.
- Compared the program and project management processes for ITIA and non-ITIA projects.

The scope of the audit included discussing the guidelines for classifying IT projects and associated processes with key IRS officials and reviewing available documentation. Some of the third-party documentation was provided to us by IRS liaisons. In addition, we reviewed a judgmental sample² of six IT projects to determine if they were properly classified and funded.

We conducted the audit in the National Headquarters' Business Systems Modernization (BSM) and Information Technology Services offices from November 2000 through May 2001. This audit was performed in accordance with *Government Auditing*

¹ 1998 Treasury and General Government Appropriations Act, Pub. L. No. 105-61.

² Since the intent of the sample was to provide only examples of potentially misclassified projects, we chose to use judgmental sampling. During our review, we identified a total of 11 ITIA projects and 33 non-ITIA projects. The judgmental sample included 3 ITIA and 3 non-ITIA projects.

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

Standards. Major contributors to this report are listed in Appendix I.

Background

Previous attempts by the IRS to modernize its information systems have not been fully successful. Contributing factors included management and technical weaknesses on the part of the IRS, such as the lack of disciplined systems development processes. Insufficient oversight by IRS management resulted in inadequate integration of modernization projects and high-risk/high-dollar projects that were never deployed. The IRS has since started the BSM effort to replace all of its major information systems. The IRS estimates that the BSM effort will take 15 years and cost \$5 billion.

The IRS funds IT projects through both the ITIA and the general MITS appropriations.

The Congress established the ITIA to fund BSM projects. Projects funded by the ITIA are heavily scrutinized by the Congress and various oversight groups. The IRS funds non-ITIA projects through general Modernization and Information Technology Services (MITS)³ appropriations.

The IRS Commissioner's strategy for the first few ITIA projects has been to develop low-risk projects that will show immediate taxpayer benefit and assist in developing the processes for future higher-risk projects.

Results

The IRS has improved systems modernization processes based on the results of the prior modernization efforts.

The IRS has made progress in improving systems modernization processes by using lessons learned from the prior modernization efforts. The IRS created an architecture, known as the Modernization Blueprint, to guide the BSM effort. Also, the IRS established rigorous program and project management processes for

³ During our audit, the IRS reorganized its Information Systems function and renamed it Modernization and Information Technology Services.

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

ITIA projects. These processes include an Investment Decision Management⁴ process and a comprehensive methodology to guide development and deployment of systems from beginning to end, called the Enterprise Life Cycle (ELC). The IRS has also made progress in setting up similar processes for non-ITIA projects, including modified versions of the ELC and Investment Decision Management processes. See Appendix III for a chronological listing of systems modernization improvements.

In April 1999, the IRS Commissioner issued a memorandum entitled, “Thoughts on Issue of How to Plan IS Projects Other Than Major ‘Core Systems’ Projects.” This memorandum advocated the creation of a three-tier structure for classifying IT projects (Tiers A, B, and C). Through discussions with IRS officials, we determined that Tier A projects are funded by the ITIA and Tier B and Tier C projects are funded through the IRS MITS General Appropriations account. The MITS will manage both the ITIA and non-ITIA projects.

While the IRS has defined some of the basic elements of a tier classification system, we determined that various definitions or guidelines exist for the three tiers (see Appendix IV for an analysis of Tier A characteristics). Based on our review of the various guidelines, management improvements being implemented, and the upcoming planned deployment of two low-risk projects, we concluded that the IRS should use this opportunity to establish authoritative classification guidelines and processes to administer the guidelines.

⁴ Investment Decision Management refers to a process that the IRS uses to select, prioritize, control, and evaluate its IT projects.

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

**Authoritative Guidelines and Processes Are
Needed for Classifying Information Technology
Projects**

The Congress established the ITIA to create monetary control over the BSM, to avoid the pitfalls experienced in earlier modernization efforts. Therefore, to ensure that appropriate IT projects are properly funded, the IRS should develop authoritative guidelines and processes for classifying IT projects as ITIA or non-ITIA projects.

Various IRS documents, including status reports, meeting minutes, and performance reviews, indicate the IRS recognizes that the guidelines for classifying IT projects are not clear and need refining. In addition, opinions vary among the MITS managers as to what the classification guidelines are or should be (project management rigor, funding, risks, costs, etc.) and why projects are currently classified as they are.

The IRS should develop authoritative guidelines and processes for determining how an IT project should be funded.

The IRS has prudently begun the BSM effort by developing low-risk projects. Because the IRS was attempting to learn lessons and achieve early success by initiating low-risk projects, it did not focus on establishing either authoritative funding guidelines for classifying projects or processes to administer such guidelines. As the IRS moves toward higher risk projects, the need for authoritative guidelines will become more critical.

Without creating ITIA and non-ITIA funding guidelines and processes to administer the guidelines, the IRS could misclassify projects.

- Non-ITIA projects could be subjected to more project management and funding rigor than required.
- ITIA projects could be subjected to less project management and funding rigor than required.
- ITIA and non-ITIA funds could be used for purposes not intended or approved by the Congress.

To determine if any of these conditions were present, we reviewed six projects possessing characteristics that

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

indicated possible misclassification, had authoritative guidelines been in place. We identified three ITIA projects that could have been classified as non-ITIA projects and three non-ITIA projects that could have been classified as ITIA projects (see Appendix V for details).

Recommendations

To ensure that Congressional expectations are met for the expenditure of ITIA and non-ITIA funds, the Deputy Commissioner for Modernization & Chief Information Officer should:

1. Establish specific objective guidelines for classifying IT projects as ITIA or non-ITIA. The guidelines should include, at a minimum, a) cost, b) development period, c) quantitative/qualitative estimate of risk, and d) integration with, or affect on, the modernization architecture.

Management's Response: IRS management agreed with the recommendation and plans to develop authoritative guidelines for making investment decisions. The guidelines will include cost, development period, quantitative and qualitative risk estimates, and integration with, or effect on, the modernization architecture.

2. Establish repeatable processes and authority for applying the classification guidelines, including:
 - a. An initial classification of each IT project at its inception.
 - b. A periodic reassessment process to ensure that the classification continues to be appropriate.
 - c. A process to follow when guidelines do not clearly indicate how projects should be funded.

Management's Response: IRS management agreed with the recommendation and plans to develop a process, including guidelines and procedures, for the selection and funding of information technology projects. The

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

process will be used for funding classification and ongoing review of all information technology projects.

Conclusion

The IRS has prudently initiated the BSM with the development of low-risk projects. With the advent of improved management processes and the planned deployment of two low-risk projects, the IRS should establish authoritative guidelines for the classification of IT projects for determining the source of funding and establishing the proper amount of project management rigor required. Without developing authoritative guidelines and processes for the classification of IT projects, the IRS could misclassify IT projects. This could subject the projects to more or less project management rigor than required and could result in funds being used for purposes not intended or approved by the Congress.

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

Appendix I

Major Contributors to This Report

Scott E. Wilson, Assistant Inspector General for Audit (Information Systems Programs)

Scott A. Macfarlane, Director

Troy D. Paterson, Audit Manager

Paul M. Mitchell, Senior Auditor

Jeffrey E. Williams, Senior Auditor

Perrin T. Gleaton, Auditor

Suzanne M. Noland, Auditor

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

Appendix II

Report Distribution List

Commissioner N:C
Associate Commissioner, Business Systems Modernization M:B
Deputy Associate Commissioner, Program Management M:B
Deputy Associate Commissioner, Program Planning and Control M:B
Deputy Associate Commissioner, Systems Integration M:B
Chief, Information Technology Services M:I
Director, Strategic Planning and Client Services M:SP
Director, Legislative Affairs CL:LA
Director, Office of Program Evaluation and Risk Analysis N:ADC:R:O
Chief Counsel CC
National Taxpayer Advocate TA
Office of Management Controls N:CFO:F:M
Audit Liaisons:
 Associate Commissioner, Business Systems Modernization M:B
 Chief, Information Technology Services M:I

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

Appendix III

Chronological Listing of Systems Modernization Improvements

| Date | Event |
|---------------|---|
| May 1997 | The Internal Revenue Service (IRS) publishes <i>Blueprint 1997</i> to guide the new systems modernization effort. |
| December 1998 | The IRS awards a contract to the Computer Sciences Corporation to build systems based on <i>Blueprint 1997</i> . |
| April 1999 | The IRS Commissioner publishes a memorandum advocating a tier structure for information systems projects. |
| May 2000 | The IRS agrees to develop only low-risk information systems projects. ¹ |
| July 2000 | The IRS systems modernization oversight structure officially “stands up”. ² |
| December 2000 | The IRS publishes <i>Blueprint 2000</i> to update guidance for the new systems modernization effort. |
| Summer 2001 | The IRS plans to begin deploying two low-risk projects. |

¹ *Tax Systems Modernization: Results of Review of IRS’ March 7, 2000, Expenditure Plan* (GAO/AIMD-00-175, dated May 2000).

² The term “stands up” refers to the process of establishing offices, assigning staff, and defining roles and responsibilities.

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

Appendix IV

**Characteristics of “Tier A” Projects Obtained from
Various Internal Revenue Service Sources**

| Characteristics for “Tier A” Project Classification | IRS[1] Comm- issioner’s Memo April 1999 | ELC[2] Guide Chapter 1 November 1999 | Power Point Slides from BSM[3] Director | Convers- ations with IRS Modern- ization Managers | “BSP[4] Participation in the ELC” Document January 2001 |
|--|--|---|--|--|--|
| Creates or enables major business process change | | X | | | X |
| Provides significant new technological functionality in support of business change | | X | | | X |
| Defines or forms integral component of modernization architecture | | X | X | X | X |
| Core business system (as opposed to medium or small size system) | X | | | | |
| Large size in cost or FTEs [5] (“large” is not defined) | X | | | X | X |
| Maintains core agency data | | | X | X | |
| Supports basic tax function; usually multiple business organizations | | | X | X | X |
| Business owner is designated on behalf of agency | | | X | | |
| Large size, longer time frame | | | X | X | X |
| High risk | | X | X | X | X |
| Full life cycle, multiple releases | | X | X | X | |
| Agency business case (as opposed to single user) | | | X | X | |
| High impact; cost over \$20 million; crosses multiple business lines; life cycle over 2-3 years with multiple releases | | | | | X |
| Projects derived from the <i>Blueprint 1997</i> | | | | X | |
| Projects funded by the ITIA[6] | | | | X | |

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

| Reference Number | Abbreviation | Definition |
|-----------------------------|---------------------|---|
| 1 | IRS | Internal Revenue Service |
| 2 | ELC | Enterprise Life Cycle |
| 3 | BSM | Business Systems Modernization |
| 4 | BSP | Business System Planning ¹ |
| 5 | FTE | Full-Time Equivalent ² |
| 6 | ITIA | Information Technology Investment Account |

¹ Among other responsibilities, the BSP offices are charged with identifying IRS business needs and overseeing the preparation of business cases and related documents.

² An FTE equates to the full compensation for one person working one full year.

Projects That Could Have Been Classified Differently

**Three Information Technology Investment Account (ITIA) Projects That
Could Have Been Classified as Non-ITIA Projects**

We identified three ITIA projects that appear to be more in line with what is generally considered a non-ITIA project, in terms of cost and risk. While we understand that the Internal Revenue Service (IRS) undertook these particular projects to attain early Business Systems Modernization (BSM) success, adherence to authoritative guidelines would result in these types of projects being properly classified in the future.

- **Customer Relationship Management Examination** - This project is a commercial off-the-shelf software package intended to benefit just one business unit within the IRS. Both risk and cost for this project are low, and there is no planned integration with other modernization projects. The IRS estimates it will spend \$4.5 million in ITIA funds to purchase and deploy the software.
- **Telecommunications Enterprise Strategic Program** - In January 2001, one segment of this project, consisting of three mini-projects, was transferred to the Modernization and Information Technology Services (MITS) organization for continued development and general appropriations funding. These mini-projects are low-risk since they are effectively just upgrades to the existing IRS telecommunications systems. We estimate that, prior to the transfer, \$978,946 in ITIA funds was spent on the three mini-projects.
- **Customer Communications 2001** - This project consists only of upgrades to existing telephone call management systems with no resulting retirement of existing systems. It is a low-risk project, although the cost is relatively high. The IRS estimates it will have spent \$60.8 million in ITIA funds on this project by the end of Fiscal Year 2001.

**Three Non-ITIA Projects That Could Have Been Classified
as ITIA Projects**

We identified three non-ITIA projects that appear to be more in line with what is generally considered an ITIA project, in terms of cost and risk. During our audit, the

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

IRS recognized that one of these projects was probably misclassified and cancelled further enhancements to the project.

- **Asset Management Modernization Project (AMMP)** - This is a sub-project of the Enterprise Systems Management (ESM) project, which is an ITIA project. The AMMP is currently being developed as a non-ITIA project. AMMP and ESM project management indicated that at some point the AMMP project should become an ITIA project. However, due to the absence of authoritative classification guidelines, IRS management was not sure at what point this should occur. The AMMP represents new technology that will become an integral part of a modernization project and is high in risk and dollars (\$40 million).
- **Practitioner Secure Messaging System** - This project uses new technology to exchange taxpayer information using the Internet. A prior audit report¹ indicated the project was being developed outside of the MITS organization without any Enterprise Life Cycle discipline and recommended the project be moved to the BSM program. The IRS has authorized \$2.5 million to complete the project.
- **Electronic Tax Law Assistance** - We selected this project for review due to its similarities to an ITIA project. Subsequent to our selection of this project for analysis, the IRS recognized the similarities and cancelled further enhancements.

¹ *Controls Over the Development of the Practitioner Secure Messaging System Prototype Should Be Improved* (Reference Number 2001-20-022, dated December 2000).

**Letter Report: Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects**

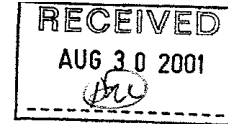
Appendix VI

Management's Response to the Draft Report



PUTY COMMISSIONER

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224



August 30, 2001

**MEMORANDUM FOR TREASURY INSPECTOR GENERAL FOR TAX
ADMINISTRATION**

FROM:

for John C. Reece *Dennis Szymanski*
Deputy Commissioner for Modernization and
Chief Information Officer

SUBJECT:

Management Response to Draft Letter Report –
“Authoritative Guidelines and Processes Are Needed for
Classifying Information Technology Projects”
(Audit No. 200120027)

Thank you for the opportunity to comment on your draft report on the need for authoritative guidelines and processes for classifying information technology projects. Proper classification of technology projects offers a huge benefit to the IRS by applying the appropriate level of review for a project and allowing us to use our information technology resources effectively.

We agree with your recommendations for more precise guidelines and improved processes for placing a project on either an Information Technology Investment Account (ITIA) or non-ITIA list. Clearer guidelines and processes will improve the quality of our information technology investment decisions and the level of compliance with legal and Congressional requirements regarding ITIA monies.

Thank you for your recognition of the Business System Modernization Office (BSMO) and its contribution to the IRS modernization. Through the Enterprise Life Cycle (ELC) effort, BSMO has already developed excellent categorization processes and procedures under strict configuration management control. The Business Systems Modernization Office, working closely with the entire Modernization Information Technology Services (MITS) organization, developed a prioritized, comprehensive list of all improvement projects for the FY 2002 – FY 2003 MITS Strategy and Program Plan (SPP). Authoritative guidelines and processes for project classification will strengthen and integrate these and other efforts to properly classify information technology projects. We outlined our actions to develop the guidelines and processes in our attached response.

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

2

If you have any questions, please call me at (202) 622-6800. Members of your staff can call Diane R. Robinson, Acting Program Manager, Oversight and Coordination, at (202) 283-4128.

Attachment

cc: Associate Inspector General for Audit (Information Systems Programs)
Director, Legislative Affairs

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

Attachment

Management Response to Draft Letter Report – “Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects” (Audit No. 200120027)

Recommendation #1

The Deputy Commissioner for Modernization & Chief Information Officer should establish specific objective guidelines for classifying IT projects as ITIA, or non-ITIA to ensure that Congressional expectations are met for the expenditure of ITIA and non-ITIA funds. The guidelines should include, at a minimum, a) cost, b) development period, c) quantitative/qualitative estimate of risk, and d) integration with, or affect on, the modernization architecture.

Assessment of Cause

Various organizational components within Modernization Information Technology Services (MITS) individually established guidelines based on the scope of the project (Tier A versus Tier B, or Tier C). These guidelines were only used within the establishing organization's structure.

Corrective Action #1

The Modernization Information Technology Services (MITS) organization will develop authoritative guidelines to make investment decisions for information systems technology. The criteria will include cost, development period, quantitative and qualitative risk estimates, and integration with, or effect on, the modernization architecture.

Implementation Date of Corrective Action #1

Proposed: December 1, 2001
Implement authoritative guidelines for investment decisions

Responsible Official for Corrective Action #1

Deputy Commissioner for Modernization and Chief Information Officer M
Director of Financial Policy, Planning and Programs M

Monitoring Plan for Corrective Action #1

Monthly, the Director, Financial Policy, Planning and Programs will assess the development, implementation and effectiveness of the guidelines and process.

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

Attachment

Management Response to Draft Letter Report – “Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects” (Audit No. 200120027)

Recommendation #2

The Deputy Commissioner for Modernization & Chief Information Officer should establish repeatable processes and authority for applying the classification guidelines to ensure that Congressional expectations are met for the expenditure of ITIA and non-ITIA funds, including:

- a. An initial classification of each IT project at its inception.
- b. A periodic reassessment process to ensure that the classification continues to be appropriate.
- c. A process to follow when guidelines do not clearly indicate how projects should be funded.

Assessment of Cause

The Business Systems Modernization Office (BSMO) established an Investment Decision Process for low-risk Tier A projects in the Enterprise Life Cycle (ELC). The Information Technology Services (ITS) organization developed similar processes for Tier B projects within the Business System Planning/Division Information Officer (BSP/DIO) Council. We developed these separate processes before establishing the Deputy Commissioner for Modernization and Chief Information Officer position over both BSM and ITS.

Corrective Action #2

The Modernization Information Technology Services (MITS) organization will develop a technology investment decision process, including guidelines and procedures, that determines the selection and funding of information technology projects. The Modernization Information Technology Services organization will use this process for Information Technology Investment Account (ITIA) funding classification and ongoing review of all information technology projects.

Implementation Date of Corrective Action #2

Proposed: December 1, 2001
Implement MITS-wide information
technology investment decision process

Responsible Official for Corrective Action #2

Deputy Commissioner for Modernization and Chief Information Officer M
Director, Strategy Planning and Client Services M:SP

Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects

Attachment

Management Response to Draft Letter Report – “Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects” (Audit No. 200120027)

Monitoring Plan for Corrective Action #2

Monthly, the Director, Financial Policy, Planning and Programs will assess the development, implementation and effectiveness of the guidelines and process.